

~~TOP SECRET~~

102185-a

CENTRAL INTELLIGENCE AGENCY

OFFICE OF NATIONAL ESTIMATES

~~CONFIDENTIAL~~

24 June 1955

MEMORANDUM FOR THE DIRECTOR

SUBJECT: Soviet Gross Capabilities for Attack Against the US in
1965

1. This memorandum, except for the nuclear weapons section, does not represent agreed IAC views. Based largely on material contributed by OSI, it examines in a preliminary way the questions which will be treated in NIE 11-10-55 (scheduled for completion by 2 August 1955). It includes brief statements of the probable Soviet position in 1965 with respect to: (a) types and quantities of weapons -- nuclear, biological, chemical, and radiological; (b) delivery vehicles -- aircraft, guided missiles, naval vessels; and (c) probable forms and scales of attack. Judgments with respect to all of these are highly speculative since they assume developments of present trends to which unknown obstacles may appear and also ignore the possibility of scientific and technological breakthroughs.

Nuclear Weapons*

2. There is no evidence on the USSR's specific plans for developing its atomic energy program during 1958-1965, nor are there any specific parameters to which the growth of the program during this period can be tied. Nevertheless, it is possible in a general way, assuming no radical technological advance, to project from present estimates the possible growth of Soviet nuclear capabilities beyond mid-1958. In doing so it is necessary to proceed by analogy with current and projected US developments and time tables in this field. However, it is entirely possible that a radical technological

* This section is based on NIE 11-2-55, Restricted data, "The Soviet Atomic Energy Program," dated 25 April 1955.

~~TOP SECRET~~

DOCUMENT NO. 7
 NO CHANGE IN CLASS. ☐
 DECLASSIFIED
 CLASS. CHANGED TO: TS S C1990
 NEXT REVIEW DATE: _____
 AUTH: HR 70-2
 DATE 15-80 REVIEWER: 372044

~~CONFIDENTIAL~~

~~TOP SECRET~~

advance could be accomplished by the USSR before 1965. If such did occur, the figures presented here for possible weapons stockpiles would be radically altered.

3. In view of the broad spectrum of weapon types which will probably be available to the Soviet Union, it becomes increasingly difficult to estimate the detailed makeup of the Soviet stockpile as it is projected into the future. To indicate the general magnitude of the Soviet threat after mid-1958 and to present an example of a possible Soviet weapon stockpile by 1965, estimated Soviet fissionable material has been arbitrarily allocated to the following broad classes of weapons: 50 percent to large-yield weapons (500 kilotons to 10 megatons or more), 35 percent to intermediate-yield weapons (5 to 500 kilotons), and 15 percent to small-yield weapons (0.5 to 5 kilotons). Of course the actual weight and dimensions of Soviet weapons and war heads will be governed by the parameters enforced by available delivery systems. These weight and dimensional characteristics will, in turn, determine the actual yield obtainable from a given amount of fissionable material in a specific type of weapon. However, in broad terms, the availability of nuclear weapons in 1965 could be as indicated under each of the following assumptions:

a. No expansion of Soviet fissionable material production facilities after 1958:

Large-yield weapons	610
Intermediate-yield weapons	1,190
Small-yield weapons	1,520

b. Continued expansion of Soviet fissionable materials production facilities after 1958 at the same rate as estimated for the period 1949 to mid-1958:

Large-yield weapons	790
Intermediate-yield weapons	1,540
Small-yield weapons	1,970

- 2 -

~~TOP SECRET~~

~~CONFIDENTIAL~~

~~TOP SECRET~~

- c. Expansion of the Soviet program after 1958 at a rate which will increase its requirements for uranium to approximately 7,000 to 10,000 tons per year by 1964:

Large-yield weapons	1,760
Intermediate-yield weapons	3,430
Small-yield weapons	4,410

BW, CW, AND RW Weapons

4. It appears certain that the USSR will possess satisfactory versions of standard antipersonnel and anticrop BW weapons. It may also acquire some of the more radical types not presently regarded as practical by US military standards. Antipersonnel agents which may be used fall into five broad categories, namely: bacterial, viral, toxins, combinations of BW agents, and combinations of CEBAR (chemical, biological, radiological) components. BW weapons will probably be typed for agent dissemination by aerosol generation and by insect vectors.

5. During World War II, the USSR produced most of the standard CW agents as well as the necessary auxiliary equipment. We assume that the stockpile of agents, munitions, and equipment, as well as the production facilities have been maintained and will be available for use in the future. Intelligence indicates that the USSR, since 1949, has had the facilities and scientific knowledge to produce two of the nerve gases. Therefore, if chemical warfare were utilized, the USSR would almost certainly be able to employ these agents. Present Soviet basic research could result in the development of toxic compounds of military significance such as substances which could incapacitate people without killing them, causing temporary schizophrenia or other mental disorders. However, it is not possible to predict with any degree of certainty that such agents could be developed for use before 1965.

6. It is most unlikely that the USSR will be able to stockpile militarily significant quantities of radiological warfare weapons by 1965. As indicated in Paragraph 3, however, the USSR will possess megaton nuclear weapons producing radioactive fall-out.

- 3 -

~~TOP SECRET~~

~~CONFIDENTIAL~~

~~TOP SECRET~~

Aircraft

7. Improved versions of existing heavy bombers, the BISON and BEAR, will probably still be operational in limited quantities in 1965, although primary reliance by that date will almost certainly be placed on new bomber types. A supersonic heavy bomber will probably be available for attacks on the US in 1965. It will probably correspond in size and weight to the present medium bomber, but have range characteristics commensurate with current heavy bomber types. Its combat radius is estimated as likely to be about 3,700 to 4,000 nautical miles without refueling. In addition, a new medium supersonic bomber with combat radius of about 2,000 nautical miles probably will be available. It is possible that a bomber with nuclear propulsion will be available in 1965. Such a bomber might be a development of, or have some similarity to, the current BEAR, since it is possible that a nuclear power plant would be used to drive a turbine-propeller combination.

Guided Missiles

8. The USSR will probably concentrate effort on the ballistic missile because of its relative immunity to countermeasures and its greater capability for surprise. A long-range program which would meet Soviet strategic requirements and be within Soviet scientific capability through the period 1960-1965 could be as follows:

- a. A two-stage ballistic missile with a maximum range of about 1,900 nautical miles with inertial guidance and a CEP of 3 to 4 nautical miles;
- b. An intercontinental ballistic missile with a maximum range of 5,500 nautical miles and a CEP of roughly five miles. Such a missile, estimated previously in NIE 11-6-54 as within the capabilities of the USSR by 1963 (earliest possible date - 1960), could be improved marginally in accuracy and reliability by 1965.

- 4 -

~~TOP SECRET~~

~~CONFIDENTIAL~~

~~TOP SECRET~~

- c. An unmanned Satellite. The greatest value of such a vehicle would probably lie in its psychological effect rather than in any direct military application.
- d. A submarine-launched supersonic missile which would be a refinement of, and possess advanced operational capabilities over the winged-type missiles described in NIE 11-6-54. Ranges up to about 1,000 nautical miles might be achieved.
- e. Improved air-to-surface and air-to-air missiles.

Naval Vessels

9. The naval vessel most likely to be emphasized by the USSR is the submarine. By 1965, a nuclear propulsion plant could be developed with the consequence that the approach of such vessels to the continental US would be especially difficult to detect. Modernization of the Soviet submarine force should be completed and the USSR will probably maintain an order of battle of some 500 submarines of which about 450 would be long-range types. Of these latter, a few might be nuclear propelled with greatly increased ranges and speeds over present types.

10. Although the USSR has no aircraft carriers at present, it has the capability to develop and construct such vessels by 1965. However, the difficulties of employing them effectively against the US makes their development for this purpose seem unlikely.

Forms and Scales of Attack in 1965

11. The USSR probably will still place great reliance on manned aircraft by 1965, even though a fully developed intercontinental missile of the winged or ballistic types may be available. Depending on the number and reliability of the latter, there would probably be some reduction in the total number of bombers in the order of battle. However, the intercontinental missile is unlikely to be available in such numbers, nor to be effective enough against essential point targets, to permit its use on any large scale in place of aircraft.

- 5 -

~~TOP SECRET~~

~~TOP SECRET~~

If the USSR does not have an operational intercontinental missile the present order of battle of some 1,400 long-range bombers would probably be maintained through 1965. The ability to launch most of these aircraft from interior bases together with the greatly increased speeds of the newer types might permit the bulk of these aircraft to reach continental warning lines with virtually complete surprise.

12. Submarines would probably be utilized to launch guided missiles with nuclear warheads against targets in the US, especially those in coastal areas. Also, torpedoes with ranges up to 30 nautical miles might be used to deliver a nuclear attack on major seaports and naval bases. Such torpedoes might be modified to sink after a predetermined length of run and explode after a time delay. Any naval vessel, either surface or submarine type, which could be brought into proximity to US shores could also be used as the distribution point for an aerosol biological warfare agent. Such a dissemination would be affected by such meteorological conditions as the direction and velocity of air currents, humidity, temperature, and air turbulence.

13. Current estimates state that nuclear weapons, BW, and CW weapons could be clandestinely employed against the US, but point out that there would be serious risks of detection in such operations, and that therefore chief reliance would probably not be placed on this type of attack. This estimate is unlikely to be materially altered by 1965.

Conclusion

14. It is clear that by 1965, even assuming no scientific or technological breakthrough, the normal development of Soviet weapons will greatly enhance the USSR's gross capability to attack the US. Perhaps even more important, the USSR's capability to accomplish such an attack with surprise, except for radar warnings, may be greatly increased. It is important to note, however, that the change is one in the USSR's gross capability. In judging whether to employ it, or in weighing it as a political factor, the Soviet leaders would have to view it in net terms. They would have to take into account advances made in the interim in US air defense and they would

- 6 -

~~TOP SECRET~~

~~TOP SECRET~~

~~CONFIDENTIAL~~

also have to consider whether or in what degree an attack on the US would be likely to reduce the force of a US counterblow.

FOR THE BOARD OF NATIONAL ESTIMATES

25X1A9a

SHERMAN KENT
Assistant Director
National Estimates

- 7 -

~~TOP SECRET~~

~~CONFIDENTIAL~~